

PROCEEDINGS
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NINE NEW THYSANOPTERA FROM THE UNITED STATES.

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The following species of thrips have not been heretofore described. One is of economic importance and all but two are represented by an abundance of material.

Scirtothrips niveus sp. nov.

Female.—Color almost white. Head about 1.5 times as wide as long, broadest across eyes; cheeks straight and parallel; eyes .6 as long as head, interval twice their breadth. Antennæ about 2.5 times as long as head; segment 3 pedicellate; segments 1 and 2 white; 3 white in basal half, shading to dark gray at tip; 4-8 dark gray, 4 pale at base, 5 pale just beyond the dark pedicel. Prothorax about 1.3 times as wide as long, minutely transversely striate; one short bristle at each posterior angle. Legs colorless. Wings three times the length of antennæ, and about 17 times as long as width at middle, colorless and almost perfectly transparent; anterior vein of fore wings with three nearly equidistant white bristles in distal half, posterior vein with two.

Measurements of holotype.—Length .99 mm.; head, length .090 mm., width .138 mm.; prothorax, length .120 mm., width .164 mm.; pterothorax, width .216 mm.; abdomen, width .232 mm. Antennal segments: 1, 19 μ ; 2, 36 μ ; 3, 42 μ ; 4, 36 μ ; 5, 33 μ ; 6, 41 μ ; 7, 8 μ ; 8, 14 μ ; total length of antenna, .23 mm.; width at segment 4, .018 mm.

Male.—Slenderer than female. Length .72 mm.

Described from eleven females and one male taken on the under surface of leaves of *Cornus florida* L., Plummer's Island, Maryland, May 18, 1913, by W. L. McAtee and the writer.

Thrips varipes sp. nov.

Female.—Allied to *madronii* Moulton. Color dark blackish brown. Head 1.3 times as wide as long, rather conspicuously cross striate; cheeks rounded; eyes .7 as wide as their interval. Antennæ slender, 2.4 times

as long as head; segment 1 lighter in color than head; 2 concolorous with head; 3 pale brownish yellow; 4 distinctly darker; 5-7 blackish brown. Prothorax about 1.2 times as long as head and nearly 1.5 times as wide as long; two long bristles at posterior angles, and between them three pairs of much shorter ones; notum spinose, with two bare areas. Legs blackish brown, with inner surfaces of fore tibiae, both ends of middle and hind tibiae, and all tarsi, yellow. Wings of fore pair dark grayish brown, nearly white in basal fourth; principal vein with three nearly equidistant bristles in apical half.

Measurements of holotype.—Length 1.27 mm.; head, length .120 mm., width, .157 mm.; prothorax, length .144 mm., width .212 mm.; mesothorax, width .300 mm.; abdomen, width .324 mm. Antennal segments: 1, 24 μ ; 2, 40 μ ; 3, 58 μ ; 4, 51 μ ; 5, 41 μ ; 6, 54 μ ; 7, 21 μ ; total length of antenna, .29 mm.; width at segment 4, .022.

Described from seventeen females as follows: Plummer's Island, Maryland, March 30 and April 6, 1913, in flowers of *Muscari racemosum* and *Erythronium* sp., W. L. McAtee and J. D. Hood, 11 females; Havana, Illinois, June 19, 1909, in flowers of *Clematis viorna*, C. A. Hart, 6 females.

Type locality.—Plummer's Island, Maryland.

Zygothrips harti sp. nov.

Female, macropterous.—Color fuscous to nearly black. Head about 1.2 times as long as wide; cheeks almost perfectly parallel, smooth; eyes slightly less than one-third as long as head; posterior ocelli in front of middle of eyes; postocular bristles capitate, three-fourths as long as eyes. Antennae 1.7 times as long as head, nearly uniform dark blackish brown; segment 1 with base pale; 2 pale in outer apical half; 3 pale, darkened with brown along inner surface, indistinctly banded across apex and beyond pedicel; 4-8 blackish brown, 4 and 5 often pale at middle and toward outer surface; segment 7 *not broadly united to 8, the latter subconical, slender, and nearly three times as long as wide.* Prothorax about .7 as long as head and (inclusive of coxae) about twice as wide as long; one pair of bristles at anterior angles and two at posterior angles, about as prominent as the postoculars and either blunt or capitate; midlaterals and anterior marginals minute. Fore tarsi unarmed. Wings slender, narrowed at middle, sparsely fringed and without interlocated subapical hairs; fore wings with a small spot of brown at base. Tube a little more than half as long as head, 1.7 times as long as basal width, and a little more than half as wide at apex as at base; terminal bristles twice as long as tube.

Measurements of holotype.—Length 1.09 mm.; head, length .156 mm., width .125 mm.; prothorax, length .107 mm., width (inclusive of coxae) .204 mm.; pterothorax, width .209 mm.; abdomen, width .240 mm.; tube, length .084 mm., width at base .051 mm., at apex .027 mm. Antennal segments: 1, 25 μ ; 2, 36 μ ; 3, 35 μ ; 4, 33 μ ; 5, 12 μ ;

6, 39μ ; 7, 34μ ; 8, 28μ ; total length of antenna, .266 mm.; width at segment 4, .025 mm.

Male, macropterous.—Length about .9 mm. Tarsal tooth wanting. Abdomen slender.

Described from nine females and four males, as follows: Loma, Texas, July 7, 1908, in sweepings, C. A. Hart, female and male (holotype and allotype); Grand Tower, Parker, and Pulaski, Illinois, May 29 to July 14, 1909, in sweepings from grass, C. A. Hart; Vienna, Virginia, May 25, 1913, on artichoke, J. D. H., one female; Cabin John, Maryland (near Washington, D. C.), June 8, 1913, in sweepings, J. D. H., one female.

Named in honor of Mr. Charles A. Hart, of the Illinois State Laboratory of Natural History, in recognition of his indefatigable field work on Thysanoptera.

***Liothrips sambuci* sp. nov.**

Female.—Length about 2 mm. Color dark brown or black. Head about one and one-fourth times as long as wide; cheeks slightly converging to base; eyes about .36 as long as head; postocular bristles equal in length to eyes, nearly pointed. Antennae less than twice as long as head; segments one and two nearly black, the latter paler toward apex; 3 clear orange yellow; 4 yellow, very slightly shaded on inner and outer surfaces; 5-8 nearly black, the pedicels of 5-7 pale gray. Prothorax .7 as long as head and (inclusive of coxae) 2.1 times as wide as long; all bristles present, nearly pointed, dark in color. Legs black. Wings of fore pair with brown cloud in basal half of median third; posterior fringe double for 8 or 9 hairs. Abdomen moderately stout; tube about .8 as long as head and less than two and one-half times as long as width at base; all abdominal bristles nearly black.

Measurements of holotype.—Length 2 mm.; head, length .264 mm., width .208 mm.; prothorax, length .180 mm., width (inclusive of coxae) .382 mm.; pterothorax, width .444 mm.; abdomen, width .516 mm.; tube, length .210 mm., width at base .087 mm., at apex .044 mm. Antennal segments: 1, 36μ ; 2, 63μ ; 3, 78μ ; 4, 73μ ; 5, 72μ ; 6, 71μ ; 7, 65μ ; 8, 33μ ; total length of antenna, .49 mm.; width at segment 4, .039 mm.

Described from one female taken on elder (*Sambucus canadensis* L.), at Laurel, Maryland, June 30, 1912, by E. B. Marshall.

***Liothrips montanus* sp. nov.**

Female.—Allied to *umbripennis* Hood. Color dark brown or black. Head about 1.2 times as long as wide; cheeks rounded, converging to base; eyes not protruding, one-third as long as head, ventral interval about 1.5 times their width; postocular bristles blunt, equal in length to eye. Antennae about twice as long as head; segments 1 and 2 nearly black, the latter paler toward apex; 3 clear orange yellow; 4-8 nearly

black, or with 4 yellow in basal third and along outer surface. Prothorax about .55 as long as head and (inclusive of coxæ) about 2.5 times as wide as long; all bristles present, blunt, dark in color. Legs black. Wings of fore pair dark brown in basal half; posterior fringe double for about 14 hairs. Abdomen moderately stout; tube about .8 as long as head; abdominal bristles nearly black.

Measurements of holotype.—Length 1.9 mm.; head, length .258 mm., width .216 mm.; prothorax, length (along median dorsal line) .144 mm., width (inclusive of coxæ) .360 mm.; pterothorax, width .420 mm.; abdomen, width .552 mm.; tube, length .204 mm., width at base .090 mm., at apex .038 mm. Antennal segments: 1, 33 μ ; 2, 60 μ ; 3, 81 μ ; 4, 78 μ ; 5, 78 μ ; 6, 75 μ ; 7, 62 μ ; 8, 36 μ ; total length of antenna, .50 mm.; width at segment 4, .039 mm.

Male.—Much like female in color and structure, but smaller and more slender.

Described from fourteen females and two males taken on currant and gooseberry at Bozeman, Montana (elevation 4,500 feet), June 5 and July 20, by Prof. R. A. Cooley and Mr. J. R. Parker. According to Professor Cooley, the species is of some economic importance.

***Liothrips brevicornis* sp. nov.**

Female.—Allied to *citricornis* Hood. Color nearly black. Head about 1.4 times as long as greatest width; cheeks almost straight, converging to base; eyes not protruding, about .28 as long as head; postocular bristles equal in length to eyes, blunt. Antennæ about 1.6 times as long as head; segments 1 and 2 nearly black, the latter paler toward apex; 3 clear orange yellow; 4 brown, shaded with gray, darker on inner surface; 5-8 blackish brown, the pedicel of 5 paler. Prothorax about half as long as head and (inclusive of coxæ) 2.6 times as broad as long; all bristles present, blunt. Legs black. Wings of both pairs colorless; posterior fringe of fore wings double for 18-25 hairs. Abdomen broad and heavy; tube .8 as long as head and half as wide at apex as at base.

Measurements of holotype.—Length 2.04 mm.; head, length .336 mm., width .236 mm.; prothorax, length (along median dorsal line) .156 mm., width (inclusive of coxæ) .405 mm.; pterothorax, width .468 mm.; abdomen, width .552 mm.; tube, length .276 mm., width at base .090 mm., at apex .045 mm. Antennal segments: 1, 42 μ ; 2, 63 μ ; 3, 99 μ ; 4, 87 μ ; 5, 78 μ ; 6, 75 μ ; 7, 69 μ ; 8, 36 μ ; total length of antenna, .55 mm.; width at segment 4, .039 mm.

Described from several females taken by R. A. Cushman and the writer on *Sassafras sassafras* at Vienna, Virginia, in April and May, 1913.

***Rhynchothrips* (?) *salicarius* sp. nov.**

Female, forma brachyptera.—Color coal black. Dorsal surface roughly sculptured, often with a deciduous whitish coating. Head about 1.1

times as long as wide; cheeks subparallel, slightly converging posteriorly, with several prominent spiniferous tubercles, of which one at anterior third is usually more conspicuous; two irregular carinae between eyes; eyes about one-third as long as head, narrower than their interval; ocelli wanting; postocular bristles two-thirds as long as eyes, capitate. Antennae about twice as long as head; segment 2 bent prominently outward at base of pedicel; segments 1 and 2 nearly black; 3 orange yellow; 4-8 blackish brown, the apical segments darkest, 4 yellow at base. Prothorax nearly as long as head, and (inclusive of coxae) about 1.7 times as wide as long, without median chitinous thickening; all bristles present, short, capitate. Legs nearly black, short; tarsi brown. Wings short, scale-like. Abdomen broad and heavy, nearly one and one-half times as wide as prothorax; tube about equal in length to head, slightly more than twice as wide at base as at apex.

Measurements of holotype.—Length 1.8 mm.; head, length .204 mm., width .180 mm.; prothorax, length .192 mm., width (inclusive of coxae) .342 mm.; pterothorax, width .360 mm.; abdomen, width .504 mm.; tube, length .192 mm., width at base .078 mm., at apex .035 mm. Antennal segments: 1, 42 μ ; 2, 60 μ ; 3, 45 μ ; 4, 51 μ ; 5, 48 μ ; 6, 52 μ ; 7, 54 μ ; 8, 43 μ ; total length of antenna, .39 mm.; width at segment 4, .035 mm.

Described from 101 females taken at the base of young willow shoots, Plummer's Island, Maryland, May 9, 18, and June 8, by W. L. McAtee, Alex. Wetmore, and the writer.

***Phlaeothrips ornatus* sp. nov.**

Female, forma macroptera.—Color mahogany brown, with a white vitta (broader posteriorly) each side of prothorax and with dorsum of abdominal segments 1-8 marked each with a lateral white blotch; base of prothorax, all of first abdominal segment, and intervals between dorsal and lateral pterothoracic plates often marked with white. Head 1.2 times as long as wide; cheeks nearly straight, slightly converging to base, finely striate, each with about five small spiniferous tubercles; eyes more than one-third as long as head, wider than their interval; postocular bristles minute, seemingly indistinguishable from the sparsely placed cephalic ones. Antennae rather stout, 1.4 times as long as head; segments 1 and 2 nearly black; segments 3-8 blackish brown, pale at base. Prothorax a little more than half as long as head and only slightly broader than head; all bristles present, short, dilated at tip. Legs nearly black, with tarsi and ends of tibiae pale grayish yellow. Wings of both pairs slender, not narrowed at middle; fore pair clear in basal third and at tip, intermediate portion clouded with gray, darkest along middle; posterior fringe double for 10 or 12 hairs. Tube about .6 as long as head and .6 as wide at apex as at base, sides straight; abdominal bristles mostly short and capitate.

Measurements of holotype.—Length 1.75 mm.; head, length .276 mm., width .228 mm.; prothorax, length .150 mm., width (inclusive of

coxae) .276 mm.; pterothorax, width .336 mm.; abdomen, width .372 mm.; tube, length .156 mm., width at base .063 mm., at apex .038 mm. Antennal segments: 1, 27 μ ; 2, 54 μ ; 3, 63 μ ; 4, 65; 5, 51 μ ; 6, 53 μ ; 7, 43 μ ; 8, 37 μ ; total length of antenna, .39 mm.; width at segment 4, .036 mm.

Female, forma brachyptera.—Apparently identical with the long winged form, save for the absence of wings.

Described from many females, taken in May and June on the bark of a dying red-oak tree, Washington, D. C., by H. E. Burke, J. R. Malloch, and the writer.

***Thrips winnemanae* sp. nov.**

Female.—Color dull stramineous; pterothorax lightly shaded with orange. Head one and one-fourth times as wide as long; cheeks rounded; eyes slightly protruding, half as wide as their interval. Antennae slender, 2.4 times as long as head; segment 3 about 3.3 times as long as wide; segment 1 nearly white; 2 concolorous with head; 3 pale in basal half, lightly shaded with grayish apically; 4 and 5 pale at base, dark brownish gray beyond; 6 and 7 dark brownish gray, the former sometimes pale at extreme base. Prothorax about 1.1 times as long as head and about 1.5 times as wide as long; two long bristles at posterior angles nearly black, and between them only two pairs of smaller ones, of which the outer is pale and almost invisible, the inner long, prominent, nearly black; two pairs of similar dark colored bristles near anterior angles, and one at middle of lateral margins; disk sparsely spinose. Legs uniform stramineous. Wings of fore pair very lightly shaded with gray; principal vein with three long, nearly equidistant bristles in apical half.

Measurements of holotype.—Length 1.18 mm.; head, length .124 mm., width .156 mm.; prothorax, length .139 mm., width .209 mm.; mesothorax, width .270 mm.; abdomen, width .300 mm. Antennal segments: 1, 27 μ ; 2, 42 μ ; 3, 60 μ ; 4, 51 μ ; 5, 45 μ ; 6, 57 μ ; 7, 21 μ ; total length of antenna, .300 mm., width at segment 4, .018 mm.

Described from two females taken in a flower of *Hydrophyllum virginicum*, Plummer's Island, Maryland, May 19, 1912, by W. L. McAtee and the writer.

Named for the type locality, supposed to have been known to the Indians as Winnemana.